Exploring strategies and dynamic capabilities for net formation and management

Abstract

Nets represent forms of inter-organizational collaboration in networks in which actors can pursue complex objectives beyond their individual resources or abilities. Firms seeking to effectively form and manage nets face challenges in understanding how to strategically influence others and recognizing facilitative dynamic capabilities. To address these challenges, this research examines the way strategies are implemented at different net levels, distinguishing between supply chain and industry nets. This is explored through an empirical case study focusing on the integration of Indigenous contracting into the Western Australian mining industry. A theoretical framework is developed outlining the relevant capabilities utilized by actors across net formation and management stages. This offers an explicit understanding of how actors shift from direct to more subtle forms of influence and effectively 'co-orchestrate' nets with competitors.

1. Introduction

While individual firms may struggle to exert influence at a broad network level (Ford & Mouzas, 2013), this becomes a possibility through multi-actor coordination and strategic determinism occurring at more narrowly-defined levels in supply chains, strategic alliances or nets. Nets allow researchers to examine strategies and capabilities for influencing 'in networks' given the theoretical contention around actors' ability to 'orchestrate' by purposefully forming and managing nets (Dyer & Singh, 1998; Gadde, Huemer & Håkansson, 2003). This relates to the conceptual premise of nets, whereby distinct groups of actors coordinate contributions to collective goals (Möller & Svahn, 2003). Such a degree of actor determinism does not align with perspectives of networks as emergent, self-organizing systems, whereby high levels of network control may restrict innovation and represent inefficient use of resources (Håkansson & Ford, 2002). Exploring an actor's ability to 'manage' others at different network levels considers how organizational strategies and influence are applied in collaborative forms, such as nets, and serves to understand their architecture (Aarikka-Stenroos, Sandberg & Lehtimaki, 2014; Patala, Hämäläinen, Jalkala, & Pesonen, 2014; Håkansson & Ford, 2002).

While the net concept has previously been applied to a number of value creating and problem solving goals, few studies have considered the relevant capabilities to form or manage nets and even fewer have explored this empirically (Möller, Rajala & Svahn, 2005). By identifying the sets of dynamic networking capabilities utilized by net actors (Mitrega, Forkmann, Zaefarian & Henneberg, 2016), we can develop a clearer understanding of the strategic utility of nets and how relationships are influenced to pursue collective objectives

(Svahn & Westerlund, 2007; Forkmann, Henneberg, Naudé, & Mitrega, 2016). The net concept applies to a wider variety of collective B-to-B issues than currently considered; however enhancing theoretical and managerial relevance requires greater appreciation for the underlying dynamic capabilities associated with firm-level behaviors and how these are understood within the broader network context (Baraldi, Brennan, Harrison, Tunisini, & Zolkiewski, 2007).

This paper addresses two important gaps relating to our understanding of nets. Our first research problem centers upon exploring how actors strategically influence others through nets, given the tensions inherent in control within embedded networks. This research contributes to this gap by distinguishing between strategies implemented at the formation and management stages of nets within supply chains and industry levels. Our second research problem is concerned with identifying key actor's dynamic capabilities at these distinct stages in order to achieve strategic objectives. In addressing this aim, we contribute a theoretical framework outlining relevant capabilities for net formation and management, based on empirical findings from a multi-organizational industry case.

The paper is set out as follows. Section Two introduces literature relevant to the topic of managing in networks; offering an initial conceptualization of nets followed by research applicable to net formation, management and dynamic capabilities respectively. The research design is then outlined and a brief case background is provided to explain the specific context. Findings are then presented in relation to our characterization of different levels of net development (i.e. supply chain and industry net), followed by a framework that identifies capabilities relevant to each stage (i.e. formation and management). Finally, implications and conclusions are presented, reiterating the theoretical and managerial contributions of this research.

2. Managing in Networks

A review of network perspectives on management shows a shift in research focus from primarily internal firm features to the characteristics of their relationships with other actors (Majava, Isoherranen, & Kess, 2013). This recognizes that firms achieve their objectives through collaborative approaches (Ritvala & Salmi, 2010) and influencing change first requires strategic activity within immediate relationships (Hertz 1996; Havila & Salmi, 2000). While networks enable such interactions, a firm's strategic challenge is to negotiate the constraining forces associated with their network embeddedness (Ford & Mouzas, 2013). By virtue of their relationship interdependencies, firms seek ways to coordinate activities and align goals, with strategies and capabilities used to facilitate these processes (Wilkinson & Young, 2002). This paper focuses on one particular form of inter-organizational collaboration: the concept of business *nets*.

2.1 Conceptualizing Nets

The literature gives a variety of different conceptualizations, definitions and terminologies of nets (Möller, Rajala & Svahn, 2005). While most network perspectives identify different levels within a network, there is divergence around whether they represent analytical frames (e.g. small worlds – Ford & Mouzas, 2013) or actual entities (e.g. strategic nets - Möller & Svahn, 2003). We explore the underlying strategies and capabilities of nets,

consequently focusing on the essence of the concept rather than subscribing to a particular definition. Therefore, we understand a net to be a distinct sub-network formed by actors and bounded by their cooperation around a particular goal. This remains consistent with several previous definitions (Brito, 1999; Möller & Svahn, 2003; Valkokari, 2015).

As net membership is restricted based on its defining purpose or activities, nets are viewed as a partially closed system containing a definite set of members (Möller, 2013). Actors' abilities to form bounded entities are a distinguishing characteristic of net perspectives, in contrast to approaches that consider networks as open and unbounded (Svahn & Westerlund, 2007; Valkokari, 2015). Relationships within the net interact with their embedded broader network relationships (Alajoustijärvi et al., 1999), making net 'boundaries' subjective, difficult to define and delimited based on a company's individual network picture (Ford, Gadde, Håkansson, & Snehota, 2011). We also recognize that boundaries are not only based on managers' perceptions but are imposed by researchers (Alajoustijärvi et al., 1999; Halinen & Törnroos, 2005). To understand how net structures and processes interact with the broader network, it is therefore important to identify how boundaries are framed and the strategic implications.

Nets provide a useful conceptual lens for exploring network strategy and organizational capability issues, as they capture the dynamics in actor mobilization towards common goals (Valkokari, 2015). Through the collective force of net activities actors wield greater power to influence the structure and evolution of broader network systems while satisfying their strategic ambitions (Brito, 1999). Much of the net literature emphasizes the intentional formation and management of nets to distinguish them from more emergent and generic forms of inter-organizational networks (Ritter, Wilkinson, & Johnston, 2004; Partanen & Möller, 2012). This serves as an important distinction to explore, given our understanding of the constraining nature of broader networks (Håkansson & Ford, 2002), and the tensions around actor control related to network management (Aarikka-Stenroos, Sandberg, & Lehtimaki, 2014). While Möller and Rajala (2007) raise the issue of the manageability of nets compared to networks, this is ultimately assumed to be possible at the net level, albeit where management styles vary according to net type. Moreover, even if this assumption is accepted, it does not address the dynamics of net management in relation to the broader networks within which they are embedded.

2.2 Net Formation

We focus on two aspects of the net concept: initial net formation and subsequent management processes (Brito 2001; Heikkinen, Mainela, Still, & Tähtinen, 2007). Most net types imply a degree of explicit intention in their initial formation processes (Möller et al. 2005) driven by specific strategic objectives (Corsaro, Ramos, Henneberg, & Naudé, 2012; Möller et al., 2005). Alternative perspectives however consider net formation occurring through ad hoc processes, due to a convergence of interests around a particular issue (Brito, 1999). As such, actor capability in strategically initiating nets requires further exploration.

Mobilization activities, critical for net formation, involve accessing, aligning and reconfiguring net member resources towards a common objective (Mouzas & Naudé, 2007; Ritvala & Salmi, 2009). While nets can be initiated by individual hub actors pursuing their own interests, they can also emerge through the collective actions of collaborating actors

mobilizing combined resources (Partanen & Möller, 2012; Brito, 1999). Participating actors need to perceive common benefit to incentivise resource mobilization, however they may simultaneously hold differing goals and motivations for their involvement (Svahn & Westerlund, 2007; Ritvala & Salmi, 2011). Therefore, a strategic challenge is encouraging diverse actors to contribute to specific goals which can be nested under broader, overall net goals that may not be of direct relevance (Lind, 2015).

Critical to net formation is establishing legitimacy to potential members and external supporters (Human & Provan, 2000). Legitimacy is important as the initial net scope and direction is not always clear, nor are goals necessarily pre-determined (Möller & Rajala, 2007; Ritala, Hurmelinna-Laukkanen, & Nätti, 2012). As nets also vary in both time horizon and membership stability, it is important to engage the right actors at the right stage of net development (Ritvala & Salmi, 2010; Loohuis, von Raesfeld, Groen, & The, 2011). Such a challenge requires orchestrating actors match net needs with potential actor contributions and align their self-interest with the evolving net objectives (Ritvala & Salmi, 2011). Much of the literature exploring these processes focuses upon nets in fairly stable environments, overlooking their applicability to complex and dynamic contexts (Partenen & Möller, 2012). To extend this understanding, our research investigates net formation in challenging environments that require dynamic actor responses.

2.3 Net Management

We also explore how resource contributions are managed across net members and their interaction processes aligned towards achieving net goals. As with net formation, net management practices vary according to net type. These range from hub-driven nets where management responsibility is concentrated with a powerful lead actor; and nets with dispersed management arrangements across a number of participating actors (Brito, 1999; Möller & Rajala, 2007). Management within the net assumes varying levels of control over others, according to resource dependence or net goals (Svahn & Westerlund, 2007). The degree to which hub firm management activities are understood to ‘control’ others is contentious, directly relating to the ability to manage in network contexts (Håkansson & Snehota, 1995; Ritala et al., 2012). Yet, net management is not a dichotomy but a relative phenomenon, with the extent of relative control and the implications for management in networks not fully investigated (Möller, Rajala, & Svahn, 2005).

Several important management processes are necessary for the net’s efficient and effective functioning, irrespective of how they develop. Substantial coordination is required to align members’ resource and activity contributions with net goals (Möller & Svahn, 2003; Ritala, Hurmelinna-Laukkanen, & Nätti, 2012). Additionally, the development of interaction norms and governance mechanisms is needed to facilitate ongoing exchange to achieve collective goals (Möller & Rajala, 2007; Paquin & Howard-Grenville, 2013). The maintenance and promotion of the net’s vision is critical to ensuring sustained member commitment and guiding future net activities (Lundberg & Andresen, 2012; Lind, 2015). These processes help to uphold net legitimacy, for both participants and external stakeholders, throughout net evolution processes (Loohuis et al., 2011).

Given the difficulty of managing diverse sets of actors, some form of actor hierarchy may assist facilitation (Provan & Kenis, 2008). Yet, as Håkansson and Ford (2002) suggest, the risk in hierarchies resulting in complete control is that the net ultimately becomes ineffective. From this perspective, no actor should become the 'hub', although clusters of more strongly connected and controlled actors do occur in networks (Hertz, 1996; Wilkinson & Young, 2002). In contrast, net research often describes hub actors as performing management roles, therefore effectively influencing the goals and activities of net members (Möller & Svahn, 2003). Moreover, hub actors can orchestrate nets without hierarchical controls (Dhanaraj & Parkhe, 2006), although only a small portion of actors may possess the necessary capabilities and positional power to orchestrate others and drive intended change (Möller, Rajala, & Svahn, 2005). However, given nets bring together actors from a variety of vertical, horizontal or competitive relationships, this leads to diversity in desired net outcomes with a number of actors seeking to influence net management processes (Möller & Halinen, 1999; Chou & Zolkiewski, 2010). In some circumstances net management roles can be mutually negotiated and evolve over time (Ritala et al., 2012), but this does not fully account for non-cooperative processes whereby powerful actors strategically jostle for greater influence (Partanen & Möller, 2012).

While current literature focuses on hub or shared management processes, it does not address contexts in which several orchestrating actors attempt to effectively control the net. In considering perspectives of network dynamics, we recognize firms often engage in and benefit from 'coopetition' where they simultaneously compete and cooperate with others (Bengtsson & Kock, 2000). The extent to which this applies to nets must be considered further, particularly in nets requiring contributions from competitors that do not normally explicitly cooperate. This offers important insights from a strategic management perspective by exploring whether what we term 'co-orchestration' processes could successfully occur.

2.4 The Dynamic Capabilities View

It is important to recognize the organizational capabilities that enable firms to form and manage nets in line with their strategic objectives. Of particular relevance are dynamic capabilities which describe the processes used by firms to purposefully create, extend or adapt their resource and capability bases to address changes in their environment (Teece, Pisano, & Shuen, 1997; Eisenhardt & Martin, 2000). Dynamic capabilities help to explain firms' competitive advantage over time, demonstrating strategic importance through their use in influencing partners to integrate, reconfigure, gain and release resources (Teece, Pisano, & Shuen, 1997; Mitrega, Forkmann, Ramos, & Henneberg, 2012). Dynamic capabilities therefore not only assist firms in adapting to changes, but also proactively shape their environment (Teece, 2007). This is particularly relevant in complex inter-organizational contexts requiring many resources outside the firm's control (Zaefarian, Forkmann, Mitrega, & Henneberg, 2016), with Rothaermel and Hess (2007) highlighting that dynamic capabilities have different influences across the individual, firm and network levels.

There remains a need for empirical research to understand the positive performance outcomes of dynamic capabilities and how they are applied in different network settings (Ambrosini & Bowman, 2009; Pezeshkan, Fainschmidt, Nair, Frazier, & Markowski, 2016; Rothaermel & Hess, 2007). This touches upon the debate as to whether dynamic capabilities link directly to sustainable competitive advantage or via the unique resource and capability

configurations they develop (Eriksson, 2014; Ambrosini & Bowman, 2009). Despite dynamic capabilities sometimes being represented as idiosyncratic and difficult to replicate, notable commonalities across successful firms have been identified (Eisenhardt & Martin, 2000) and applied to managing across various net contexts (Ford et al., 2011; Möller & Svahn, 2003). Teece (2007) groups dynamic capabilities into three clusters: sensing, seizing and transforming/shifting; based on their focus. The direct application to net formation and management remains unclear as previous studies do not distinguish between capabilities relevant for different stages of development (Svahn & Westerlund, 2007). Svahn and Westerlund (2007) propose a framework of net management capabilities - Influencing, Controlling & Monitoring, Coordinating and Integrating; which to some extent align with our context, but with a focus on a particular type of net and not explicitly referring to dynamic capabilities.

Identifying the links between specific dynamic capabilities and organizational outcomes is difficult, especially taking into account research distinguishes abstract and complex, higher order dynamic capabilities from more specific and functional lower order capabilities (Schilke, 2014). This goes beyond the well-established, general distinction between dynamic and ordinary capabilities (Winter, 2003). Teece (2007) describes an important yet somewhat obscure layer of 'microfoundations' that form the component elements of dynamic capabilities. Previous literature identifies these issues of specificity as contributing to problems in further theoretical development (Arend & Bromiley, 2009; Laaksonen & Peltoniemi, 2016). Nevertheless, including microfoundations in conceptualizations of dynamic capabilities demonstrates their appearance and outcomes in organizations (Ambrosini & Bowman, 2009). Adding clarity to the different types of capabilities and exploring links between them contributes to the empirical grounding and applicability of the dynamic capability view (Foss, 2011).

This study identifies the capabilities enabling firms to effectively undertake the strategic tasks related to forming and managing nets as discussed in sections 2.2 and 2.3. In acknowledging that many existing frameworks of dynamic capabilities are specific to certain contexts and utilize different conceptual levels, it is appropriate at this point to examine them within a deliberately tentative framework relating to net formation and management. This will later be explored empirically and refined (as per Table 1 in the Discussion) to understand how dynamic capabilities are utilized in strategic influence for different purposes and at different levels of net.

2.4.1 *Capabilities Relevant to Net Formation*

Nets form to either take advantage of an opportunity (e.g. strategic nets) or respond to a threat (e.g. issue nets) in the environment (Brito, 1999; Moller & Rajala, 2007). The process of establishing a net purpose, a necessary step in net formation, can therefore be supported by sensing capabilities that enable firms to recognize environmental opportunities and threats (Teece, 2007). In addition, knowledge acquisition and communication capabilities are relevant to identify, attract and develop relationships with suitable participants (Mitrega et al., 2012). The often heterogeneous assortment of net members requires adaption to various interaction needs and styles (Svahn & Westerlund, 2007).

Initially nets typically develop from dyadic relationships where networking or relational capabilities are relevant (Hertz, 1996). The concept of networking capability encapsulates

the processes involved in shaping relationships with partners and managing relationship portfolios (Mitrega et al., 2012). This aligns with relational capabilities used to enhance and sustain relationships by creating common benefits and managing collaborative efforts through mutual trust, communication and commitment (Ngugi, Johnsen, & Erdelyi, 2010). Through these mobilizing capabilities, firms utilize their relationships to get others to work to their own plans (Mouzas & Naudé, 2007). Capabilities to manage these relationships are applicable to initiation and development stages, as well as relationship ending requirements (Mitrega & Pfajar, 2015; Mitrega et al., 2016).

Initial conceptualizations of dynamic capabilities emphasize the adjustments firms make to their existing capability and resource bases to achieve strategic objectives (Teece, Pisano, & Shuen, 1997; Eisenhardt & Martin, 2000). In forming nets, hub actors may need to develop their capabilities to match targeted net objectives or delegate activities to partner organizations (Partanen & Möller, 2012). Dynamic capabilities therefore enable internal maneuvering, role adaptation and relationship adjustments to emphasize improvisation and flexibility (Valkokari, Kansola, & Valjakka, 2011; Ritvala, Salmi, & Andersson, 2014). This is applicable to relevant supplier development routines which provide monitoring, feedback and training support (Mitrega & Pfajfar, 2015). These high-involvement relationship capabilities can evolve dynamically with net maturation, given the potential negative consequences associated with resource burden, opportunity costs and lock-in effects from a network perspective (Dyer & Singh, 1998; Gadde, Huemer, & Håkansson, 2003; Winter, 2003).

2.4.2 *Capabilities Relevant to Net Management*

When focusing on net management, there is a need to continuously influence net members to sustain and coordinate their contributions. Visioning capabilities are key to influencing other actors and developing the inter-organizational rationality, which facilitates and sustains exchange in nets (Schepis, Purchase, & Ellis, 2014). Visioning extends network sensing by bringing together disparate actor views towards a common trajectory (Möller & Svahn, 2003; Moller, 2010). A compelling vision may influence actors to contribute resources towards multiple emergent or dynamic goals and is especially important where goals cannot be completely formulated initially (Lind, 2015). Net vision is critical to maintaining the net legitimacy and in influencing net direction as it updates with changing circumstances (Human & Provan, 2000).

Given an unpredictable environment, integrative capabilities are required by net members to adapt to environmental changes (Svahn & Westerlund, 2007). By creating novel net configurations, actors develop new capabilities to manage efficiently (Heikkinen et al., 2007). Joint knowledge creation capabilities allow for greater understanding between actors, facilitating reflexive exchange (Svahn & Westerlund, 2007). Bringing actors together, and then coordinating and influencing their interactions, requires suitable orchestrating capabilities (Ritala et al., 2012). Successful orchestration is related to hub firms' ability to perform purposeful, strategic actions and provide subtle leadership (Dhanaraj & Parke, 2006). Orchestration is therefore closely associated with net management, and is viewed as a capability to shape the evolution of new business fields (Möller, Rajala, & Svahn, 2005).

To facilitate actor exchange and contribution towards common goals, governance type capabilities are clearly applicable (Gulati, Nohria, & Zaheer, 2000; Möller & Rajala, 2007). Developing net goals require some form of coordination to ensure that value creating activities continue efficiently and effectively (Svahn & Westerlund, 2007), while ensuring relationship development investments and maintenance costs are monitored (Blois, 1996). This implies the importance of dynamic flexibility for firms to manage relationship investments in line with their associated costs and rent and to terminate relationships when necessary (Dyer & Singh, 1998; Mitrega & Pfajar, 2015). Coordination capabilities also require knowledge of member diversity and the ability to coordinate complimentary resources in an ordered and timely manner (Möller, 2010; Svahn & Westerlund, 2007). The degree of control, typically described as having an inverse relationship with innovation, highlights the importance of informal governance (Gadde, Huemer, & Håkansson, 2003; Human & Provan, 2000). This represents a challenge to orchestrating actors, who must balance ambitions to control net management while avoiding stifling innovation processes or deterring involvement and contributions from other actors (Roseira, Brito, & Henneberg, 2010).

2.5 Summary of Research Gaps

This review identifies several gaps in our understanding of net formation and management, as well as limited research considering these issues from a dynamic capabilities view. In exploring the subtleties between influence and control at different net levels, we can provide further clarity on how firms strategically engage others to achieve objectives (Ford & Mouzas, 2013). Our overview of dynamic capability research suggests its application in network settings is complex and multi-faceted, rendering it difficult to assimilate by managers (Schilke, 2014). There is a need to examine a framework of dynamic capabilities that applies to a wider definition of nets, to better understand the nuances of network strategies at different levels.

We build on existing capability conceptualizations on net formation and management by proposing a framework that distinguishes between the capabilities relevant to firm strategizing at different net levels. As will become clear in our analysis, we conceptualize these levels as supply chain nets and industry nets. In particular, as we provide rich empirical data to both support and extend the limited number of net models that exist in the literature, our study recognizes the “context-specific” nature of management and the effect of “situational factors” (Svahn & Westerlund, 2007 pp.374). In doing so, we also incorporate issues of network strategy relating to our first research problem, namely the potential and desire for control, by exploring whether capabilities may need to shift between net levels to successfully influence others.

3. Research Design

To explore our research problems we selected a single-case study design, allowing for a detailed understanding of net processes and structures. This aligns with our critical realist perspective, which justifies this methodological approach, as it allows for thoughtful in-depth research that explores causal meaning and helps fashion theoretical frameworks (Easton, 2010). Case research is often preferred in the study of business networks given its

suitability to capture multiplex and dynamic inter-organizational interactions (Dubois & Araujo, 2007; Halinen & Törnroos, 2005). The single case approach also offered the flexibility to research net phenomenon within a novel industrial context that exhibited some particularly interesting situational factors, which will become apparent later (Halinen & Törnroos, 2005).

An industrial case setting was selected based on its initial applicability to several network phenomena involving inter-organizational collaboration on radical process innovation. The case focuses on the emerging area of Indigenous business contracting in the Western Australian mining industry. This is a unique industrial context in that it features innovative business-to-business interactions, set against ongoing political and cultural tensions (Klyver & Foley, 2012). An open qualitative approach was therefore taken, incorporating appropriately rigorous ethical processes (Hindle & Moroz, 2010).

Data collection consisted of informal interviews and observation, semi-structured interviews and secondary data sources. A preliminary data collection phase was undertaken based on thirty-six informal interviews with respondents from a variety of prominent organizations within the mining industry to provide an understanding of the network context, identify potential focal companies and inform formal interview protocols (Jack, 2005). This was followed by 27 in-depth interviews with 24 participants from 20 different organizations using snowball sampling to identify participants, as outlined in Appendix 1. Corporate texts such as websites, brochures and reports were also scrutinized to provide an element of triangulation. All original individual and company names have been removed and assigned pseudonyms to ensure anonymity.

We followed an abductive approach where the theoretical framework evolved simultaneously and interactively with empirical observations (Dubois & Gibbert, 2010). This process of systematic combining involved the researcher retaining, revising, removing and adding elements throughout the comparative process (Dubois & Gadde, 2002). Thematic analysis was utilized to identify *a priori* and *in vivo* codes and develop themes throughout the interviews and documents, placing emphasis on participant-generated meaning. The coding process focused on identifying actor representations of relevant network concepts including roles and position, relationship content and boundary perceptions. Thus, typical codes included: claims of relative power; descriptions of resources devoted to a relationship; and the actors viewed by interviewees as being 'in' the net. These were organized into a framework, based on net development stages and corresponding actor capabilities discussed in the literature review, which is represented at the start of the Discussion (Section 6) in Table 1. Three researchers compared their initial independent coding of the transcripts to ensure a high degree of inter-researcher consistency and QRS*NVivo software was utilized to store and display data and coding structures.

4. Case Background

This section provides background knowledge for readers unfamiliar with the context, while also describing some of the strategic challenges facing case firms.

In recent years many companies in the Western Australian mining industry have adopted Indigenous engagement strategies that include employment and contracting policies and

targets. While these companies could be considered at the forefront of a wider corporate sector movement to contribute to Indigenous economic development, the mining industry faces unique stakeholder pressures given the nature of their work. This partly relates to native title legislation, which recognizes Traditional Owners certain land rights and a degree of influence over mining projects affecting their communities or their lands (Crawley & Sinclair, 2003; Langton & Mazel, 2008). Mining company practices have evolved to recognize Indigenous stakeholders' expectations as a central element in maintaining their 'social license to operate' (Esteves & Barclay, 2011). In relation to commercial engagement in particular, many companies have expanded their contracting policies to include Indigenous people beyond local Traditional Owners (O'Faircheallaigh, 2010). Indigenous employment and contracting policies are therefore situated within broader corporate social responsibility strategies, whereby firms seek to legitimize their activities to protect capital investments (Parsons, Lacey, & Moffat, 2014).

Whilst Indigenous business relationships are of strategic importance to mining companies, there are notable contextual and industry-specific barriers restricting their development. One challenge is that Indigenous Australians are, on average, the most disadvantaged group in the country across many important socio-economic and quality-of-life indicators (Jordan & Marvec, 2010). Indigenous-owned businesses may start at a disadvantage due to low inter-generational wealth transference, poor credit ratings and higher perceived lending risk (Jordan & Marvec, 2010). Another challenge is ongoing racial discrimination, and a general lack of understanding of Indigenous companies by non-Indigenous Australians based on limited exposure and familiarity (Foley, 2008). This has been associated with further challenges relating to low levels of social capital, particularly affecting relationships to resources and opportunities outside their communities (Furneaux & Brown, 2008; Klyver & Foley, 2012).

Several additional barriers relate specifically to the Australian mining industry. Supply chain policies aiming to reduce costs, risk exposure and supplier numbers, are enforced by bundling work into comprehensive contract packages that are managed externally by large Engineering, Procurement and Construction Management (EPCM) contractors (Esteves, Brereton, Samson, & Barclay, 2010). These contracting structures limit smaller company participation as they lack capacity to effectively prepare documentation and equipment to meet contract requirements or the resources needed to attain prequalification (Esteves et al., 2010). Also, information gaps between small and large companies restrict communication, awareness and information of contracting opportunities (Esteves et al., 2010). While mining companies each have a strong strategic motivation to increase Indigenous contracting in their industry, they lack the capacity for commercial interaction with smaller suppliers given the scale and hierarchical structure of their operations. For contracting strategies to succeed they must effectively incorporate a wide variety of other non-Indigenous suppliers to engage in sub-contracting and business development. It is the nets formed and 'managed' under these conditions that are the focus of our empirical data.

5. Findings

Case study findings have been organized under two sections corresponding to the stages in net development that were suggested by the literature and identified in the analysis. The first section details the net formation stage, initially at the supply chain level through the

implementation of Indigenous contracting strategies and the subsequent emergence of an industry level net. The second section describes the strategies and capabilities used by mining companies to influence the management of the industry net.

5.1 Net Formation Processes

While the case includes a variety of different organizations, to explore net formation we focus on the orchestrating role of large mining companies. The Indigenous contracting policies and activities of several large mining companies were considered critical by many participants and interpreted as key forces in net development. We consider net formation to occur in two main phases: an initial phase in which mining companies implementing Indigenous contracting strategies within their own supply chains and then a broader perspective identifying how overlapping supply chain activities led to a second phase, the formation of an industry net (see Figure 1). The prominent role of mining companies aligns with the hub actor concept; however the identification of multiple hubs raises further questions regarding activity coordination.

5.1.1 Net Formation at the Supply Chain Level

Due to previously highlighted barriers, mining companies developed alternate contracting strategies to make opportunities more accessible to Indigenous contractors. Implementation required mining companies to develop new capabilities relating to contracting and supply chain management as well as reconfiguring existing operating capabilities to help develop Indigenous suppliers. In many cases, new Indigenous-specific capabilities were developed outside of existing contracting structures to maintain operational efficiency.

New or reconfigured contracting methods include selective tendering, rescaling, separating or tailoring scopes and using alternative payment structures or upfront capital allowances to reduce suppliers' risk exposure. As one mining company manager explained, strategically embedding Indigenous contracting managers within existing contracting units allowed identification and assessment of work suitable to Indigenous contractors. Once identified, large contracts were reconfigured into accessible scopes, within the capacity of Indigenous suppliers:

> "*We try to break down smaller scopes of work in the expansion area for either the main contractors to subcontract to Aboriginal businesses or, if it is not going to affect projects, we try to pull small scopes of work out so they can work directly for [Mining Company B]*" -H.B, Mining Company Manager

Through research and consultation, mining companies developed an understanding of Indigenous engagement barriers, which informed their adaptation of structures and processes. Mining companies assumed closer relationships with Indigenous suppliers, providing mentorship, capacity building support, scouting new contracting opportunities and advocating internally. Each mining company established dedicated Indigenous contracting units that provide Indigenous companies with direct contacts, reducing many of the communication and compliance barriers faced. Consequently, mining companies enhanced their learning and monitoring capabilities, which enabled them to be more responsive to issues and improve practices. These benefits were recognized by several

Indigenous company managers, who often identified key mining company individuals as providing valuable support:

> *"He has worked so hard and he has been instrumental in us remaining out there. Without Nicholas [Mining Company E Manager] I have no doubts that Northern Fields [Indigenous Company G] won't be here today"* - D.L, Indigenous Company Manager

Other strategies encouraged non-Indigenous suppliers to enter into joint venture partnerships or sub-contracting arrangements with Indigenous companies. New policies were requiring a percentage of Indigenous employment in contract tenders or providing favorable weighting of Indigenous-owned companies in contract evaluations, which increased the value of Indigenous involvement in project bids. This presented non-Indigenous companies with a competitive incentive to form relationships with Indigenous counterparts. These relationships were actively facilitated by mining company managers that could connect suitable contracting partners. In addition, EPCM and mid-tier suppliers were influenced to establish their own Indigenous engagement strategies and actively develop capabilities to partner with Indigenous companies. This not only contributed more resources towards contracting goals, but also introduced innovative forms of engagement outside of the mining companies. As one mining company manager explained, this aligned with their strategic intention of transferring responsibility for building Indigenous supplier capacities onto other firms within their supply chain:

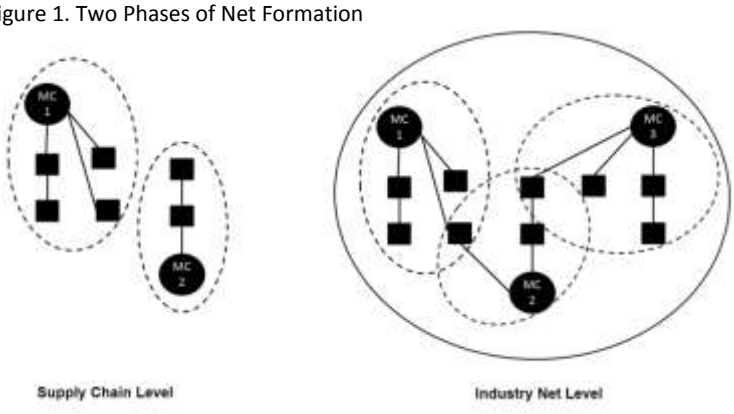
> *"So our EPCMs have all got targets on their projects that they have to meet and Indigenous engagement and so they have a certain amount that they need to spend, they have to spend on an Aboriginal business. It is difficult; a lot of Aboriginal businesses don't have the capacity or the capability to stand on their own up front so it is a matter of trying to get them in, maybe as the main contractor under the EPCM"*- H.B, Mining Company Manager

With diverse firms engaging in Indigenous contracting, numerous tensions developed due to unfamiliarity with this form of contracting or resistance to assuming additional costs and responsibility. Apart from mining companies, other firms had no direct stakeholder relationships with Indigenous communities and little interaction with Indigenous businesses. Given the important role of external actors in mining company's strategies however, their participation in the area was influenced through incentives and punitive measures.

5.1.2 Net Formation at the Industry Net Level

While mining companies were individually influencing direct partners, no industry wide activities were formally planned or initiated, nor was there explicit actor cooperation at this level. Figure 1 visualizes the process over two main phases. At the Supply Chain level, mining companies (denoted as MC) implemented Indigenous contracting strategies within their own supply chains (dotted ellipse). The industry Net level (outer, solid ellipse) formed as a result of overlaps in Indigenous contracting policies and practices initiated by different mining companies within their circles of influence (dotted ellipses). The analytical boundary notion defines the various structures and processes which evolved around Indigenous contracting activities and incorporates relevant participating actors.

Figure 1. Two Phases of Net Formation



Given intersecting relationships between contracting firms, mid-tier actors were influenced by different policies and consequently adapted by developing their own Indigenous contracting practices. Overlapping mining company strategies were considered complementary, given their common agenda had large scale influence on actor participation. Smaller contracting companies interpreted these as industry-wide changes, rather than supply chain-specific, and adjusted their own activities to align with perceived norms:

> "*You have to have some sort of Reconciliation plan or Aboriginal engagement policy otherwise you won't be able to get work from some of the big mining houses*"
> - M.G, EPCM Company Manager

As highlighted above, actors perceived the industry net to incorporate all the Indigenous-specific contracting activities (*of the big mining companies*) and was considered broader than any one firm's supply chain. Participant narratives depicted this industry level net as a unique 'area', 'space' or 'niche', where companies 'go into' and are considered to be 'active' in, thus, giving the impression of a distinct operating environment to the rest of the mining industry that requires different business approaches and behaviors. For example one company owner described it as an Indigenous-specific contracting sector with unique routines and processes:

> *"There are enough people in this area, this industry; you can even just about call it a sector now"* - M.J, Indigenous Company Owner

While noting the net's distinct features, most participants considered it to be embedded within the broader mining network, also referred to as 'the mainstream'. While considerably smaller than the 'mainstream' network, the Indigenous contracting net was perceived to be sufficiently sizeable and profitable to be sustainable, and more appropriate to achieve Indigenous contracting outcomes.

5.2 Net Management Strategies

While the strategic activities of mining companies were primarily directed towards influencing their own supply chain, no single company actively sought to control the industry net. Despite the common agenda mining company managers suggested they were conscious of their company's broader influence in shaping practices and norms at the industry net level.

Supply chain level strategies were developed independently (as per the first phase in Figure 1) and very few examples of any formal collaborative activities or joint strategies were noted. Consequently, numerous differences were identified between companies' strategies, practices and performance measurements. These distinctions evidenced by respondent debate as to their effectiveness or appropriateness, suggested a competitive undertone within the industry, contradicting other statements regarding firms' commitment to advancing Indigenous economic development in the industry overall. An emphasis on achieving Indigenous contracting targets and retaining a limited number of eligible Indigenous businesses was perceived to limit the degree of cooperation:

> *"So I asked these other people, my equivalents at other mining companies, 'do you have a list of the Aboriginal contractors that you work with?' and they said 'yeah we do but that is confidential information'"* - N.H, Mining Company Manager

Nevertheless, by operating in the same geographic and political environment, mining companies had a common agenda and whilst not explicitly collaborative, had collective influence over industry net structure and processes. Mining companies were in many ways interdependent, as they recognized the issue as being beyond any one firm's capacity. Due to interconnecting relationships, Indigenous and non-Indigenous contractors acted as conduits for information exchange across supply chains, resulting in the emergence of best practices (*better structures*). While seeking to set industry benchmarks, mining companies simultaneously adopted elements of their competitors' strategies and capabilities (model being used elsewhere):

> "*Over time as people got more sophisticated, then you started to see the better structures and in parallel to that, there was some broader strategies coming out anyway by the bigger companies relating to the communities that they impacted on, which is basically the [Mining Company A] model, so that same model is being used elsewhere by other companies*" - M.B, Mining Company Manager

A recurring theme was the emphasis on the long-term value of Indigenous contracting to encourage sustained support for Indigenous companies, despite currently being positioned as more expensive and less efficient than 'mainstream' services. Indigenous supplier capacity building was framed as short term costs that must be borne to facilitate their eventual sustainability. Developing collaborative norms to achieve this vision facilitated resource mobilization from multiple actors and discouraged opportunistic behavior. Ensuring Indigenous companies targeted self-sufficiency and competitiveness rather than short-term profit exploitation was emphasized. For example, a common net expectation was that Indigenous companies delivered positive outcomes to their communities rather than seeking private wealth. In establishing and enforcing these standards, mining companies were aligning net activities with their broader CSR strategies and maintaining their social license to operate:

> "*[The Indigenous company] seemed to have the same values that we have, the same desire to grow a business for local people, to give them jobs, to give them preference, to give them training, so to basically put back into the community. You need that*

otherwise it just wouldn't work. If their agenda was just for us to get rich, I'm not interested in just helping the individual get rich" - N.T, EPCM Company Manager

Actor roles within the industry net were different to those in the mainstream network. For example, mining companies occupied central net positions, maintaining close contractor connections and actively influencing third-party relationships. This differed from the wider network, where outsourcing was common for cost efficiency and close relationships were only maintained with a few large EPCMs. These more central positions allow mining companies greater scope for orchestration and governance activities, and is key to developing an environment conducive to Indigenous contracting and aligning their contributions to net goals. A common mining company objective was to gradually reduce the net's reliance on their own contributions; achieved by encouraging greater net cohesion through increased connections between Indigenous and non-Indigenous contractors:

"I am helping them outside their business with relation to [Mining Company F]. It is those sorts of things, the mentoring is also helping them expand their business, look for other opportunities, look for other contractors that they can partner up with so they don't have all their eggs in one basket with us" - N.H, Mining Company Manager

6. Discussion

While acknowledging the caution expressed by Mitrega et al., (2016) in identifying relationship capabilities as intended networking strategies, we focus on what we see as the strategic activities of mining companies by exploring the specific dynamic capabilities common in forming and managing the net. The formation activities at the supply chain level comprised an initial phase contributing to the formation of the industry net. The twin-level dynamics suggest mining companies sought to directly influence Indigenous contracting processes within their supply chains, while also indirectly influencing the industry net. The 'management' stage in the framework is emphasized by quotation marks, as it does not reflect management in the traditional sense of control. We therefore present a framework organized around what we have identified as categories of capabilities implemented at these two different, yet interrelated stages. Examples of each capability category are presented beneath the relevant stages, the first row containing microfoundations based on the tentative framework adopted from the literature review and the second comprising confirmatory examples from the case.

Table 1. Framework of Net Formation and Management Capabilities

Stage of Net	**Net Formation Capabilities** (directed within the supply chain level, more resource intensive activities, short-term focus, with relationship-specific investments made)		
Capability Category	**Sensing**	**Mobilizing**	**Maneuvering**
Micro-foundations	Acquiring and integrating knowledge; identifying threats and opportunities; recognize actor roles and positions; policy revision	Relationship management; strategy design and implementation; coordinating and integrating resources	Adjusting routines; reconfiguring resources; bridging; supplier development; project management
Examples	● Identified Indigenous contracting stakeholders	● Mobilized existing supplier relationships	● Established Indigenous-specific contracting

from Case	● Recognized contracting strategy barriers and threats ● Monitored policies to improve practices	● Incentivized Indigenous contracting practices ● Coordinated contributions throughout supply chain	departments/policies ● Facilitated sub-contracting relationships ● Provided direct support
Stage of Net	**Net 'Management' Capabilities** (directed towards the broader industry net level, less resource intensive activities, long-term focus, with relationship development investments and maintenance costs monitored)		
Capability Category	**Visioning**	**Orchestrating**	**Governance**
Micro-foundations	Communication; goal/agenda setting; aligning interests and sustaining commitment	Combining and aligning activities; stakeholder engagement; goal and resource management	Standard and norm setting; monitoring and compliance of activities; adjustment of strategies
Examples from Case	● Communicated broader goals and long-term vision ● Influenced Indigenous engagement agenda ● Aligned competing interests	● Engaged key external actors (i.e. government) ● Influenced EPCM and mid-tier firm policies ● Aligned contracting practices to supplier engagement targets	● Influenced 'best practice' ● Enforced net norms (i.e. anti-opportunism) through rewards and sanctions ● Measured third party contract outcomes

Net formation capabilities were more relationship directed, enabling mining companies to effectively introduce Indigenous contracting within their own supply chains. Given the radical changes from 'mainstream' processes; activities were very resource intensive, requiring significant relationship-specific investments and micro management. These costs were justified as necessary to achieve short-term outcomes. The dynamic capabilities involved at this stage are categorized as network focused *sensing* capabilities, relationship focused *mobilizing* capabilities and organizational focused *maneuvering* capabilities. These complementary foci enabled firms to integrate, build, and reconfigure internal and external competences to facilitate net formation as described in the case (Teece, Pisano, & Shuen, 1997). The net in turn allowed mining companies to sustain competitive advantages by successfully responding to environmental challenges, thereby indirectly contributing to firm performance (Eisenhardt & Martin, 2000; Eriksson, 2014).

First, mining companies utilized various *sensing* capabilities providing them with an intricate understanding of their network to enable strategy development. Sensing capabilities in this instance align directly with Teece's (2007) sensing classification and can be defined as firms' ability to accurately identify and interpret their network context. This applied to acquiring and integrating relevant knowledge relating to Indigenous relationships, as well as sensing threats and opportunities affecting their scope of commercial activity (Teece, 2007). In addition, sensing involved recognizing skilled Indigenous contractors and suitable non-Indigenous partners, while also developing an understanding of their diverse motivations and interests (Mitrega et al., 2012; Svahn & Westerlund, 2007). Sensing capabilities were highly important in the initial stage as they informed strategic formation activities and aligned them with objectives.

Second, *mobilization* capabilities facilitated other non-Indigenous companies to contribute to their Indigenous contracting objectives. These are understood to be the capabilities enabling firms to effectively influence the mobilization of resources through relationships, thereby corresponding with seizing type capabilities (Teece, 2007). Although most non-

Indigenous firms had no previous direct relationship with Indigenous stakeholders, securing their involvement was critical as they offered subcontracting opportunities and alleviated some of the resource demands borne by mining companies. Mining companies used strategically designed and implemented policies to influence suppliers through embedding incentivization mechanisms in contracts and creating mutual benefit (Ngugi, Johnsen, & Erdelyi, 2010). Mining companies used capabilities to coordinate and integrate others' resource contributions towards their strategy (Svahn & Westerlund, 2007). Relationship management capabilities enhanced mobilization efforts by allowing mining companies to develop common understandings with their contractors and instill Indigenous contracting responsibilities into their relationships (Mitrega et al., 2012).

Third, through *maneuvering* capabilities mining companies dynamically transformed themselves to achieve their strategic CSR aims (Teece, Pisano, & Shuen, 1997; Eisenhardt & Martin, 2000). This can be defined as their ability to assume positions and roles allowing them to perform important net formation activities (Valkokari, Kansola, & Valjakka, 2011) and adjusting their typical contracting routines. As such they align with reconfiguration/transformation classes of capabilities (Teece, 2007). These activities were supported by resource reconfiguring capabilities, enabling the establishment of departments to facilitate internal change and offer Indigenous contracting expertise and development support (Forkmann et al., 2016). Similarly, effective bridging capabilities combined with greater centrality provided opportunities to stimulate interaction between Indigenous and non-Indigenous firms, further integrating Indigenous contractors into the supply chain (Svahn & Westerlund, 2007; Teece, 2007). Last, micro project management and mentoring capabilities also supported a governance role overseeing third-party relationships to ensure they aligned with strategic objectives (Gulati, Nohria, & Zaheer, 2000; Svahn & Westerlund, 2007; Mitrega & Pfajfar, 2015).

The second stage, net 'management', refers to capabilities enabling mining companies to exert influence through the industry net. Given the emergent processes described in the case and lack of a formal coordinated strategy between the mining companies, the capabilities involved in managing the industry net are based on more subtle forms of influence suitable in contexts where they have less control (Håkansson & Ford, 2002; Möller, Rajala, & Svahn, 2005). These capabilities are less resource intensive than the activities in the formation stage and directed towards long term objectives. This supports the idea of the changing value of relationships, where at certain points the relative opportunity costs are greater than the rent generated (Dyer & Singh, 1998; Mitrega & Pfajar, 2015). As such, companies shift to monitoring their relationship development investments and maintenance costs. This may contribute to eventual net termination although this stage is not explicitly investigated here (Mitrega & Pfajar, 2015).

A key capability at this stage is the development and communication of a net vision (Möller & Svahn, 2003). *Visioning* capabilities represent the ability to effectively develop common net goals and processes among a diverse set of actors (Schepis, Purchase, & Ellis, 2014; Lind, 2015). Given the emergent nature of Indigenous-specific contracting strategies, not only in this industry but in Australia more generally, visioning capabilities are a powerful source of influence. This holds strategic importance considering the presence of rival mining companies, each attempting to articulate their own vision and align the net with their specific agendas. These capabilities align with the concepts of sensemaking and agenda

construction considered important for managing in new business fields (Möller, 2010). This category intersects with the influencing mode of management described by Svahn and Westerlund (2007) although we consider it a category in itself. Visioning capabilities are dynamic in that they respond to environmental changes, so as to maintain the net's legitimacy and sustain the commitment of mobilized actors (Human & Provan, 2000).

Mining companies influenced net goals, processes and norms via *orchestration* capabilities, by engaging stakeholders, such as Indigenous, government and industry groups; even though none took a controlling role. Orchestration capabilities in this framework are understood as the coordination and integration of contributions from multiple actors. While the case identifies a co-orchestrated process, mining companies still managed to combine and align contributions for greater collective impact (Heikkinen et al., 2007). Orchestrating capabilities could therefore be considered to broadly align with integrating and coordinating modes of net management (Svahn & Westerlund, 2007). Mining companies delegated responsibility for important activities, thereby loosening their direct control over net 'management', while simultaneously shifting to indirect forms of influence to maintain some coordinating role. These capabilities therefore better align with the ideas of managing in network, rather than forms of hub actor control seen previously (Håkansson & Ford, 2002).

Governance capabilities were an important mechanism for directing participants' contributions towards net goals (Gulati, Nohria, & Zaheer, 2000). These capabilities are defined as those which set and monitor objective orientated activities within the net. Mining companies shaped the norms of the industry net, for example ensuring contracting activities achieved long term sustainability rather than opportunistic profit seeking, thereby consistent with Svahn and Westerlund's (2007) controlling and monitoring mode of management. Governance capabilities allowed mining companies to strategically shape Indigenous contracting 'best practices' to align with their own versions which ultimately supported their respective agendas. These are consistent with the dynamic capabilities view as they incorporate organizational evolution with a changing environment, which firms simultaneously seek to influence (Teece et al., 1997; Eisenhardt & Martin, 2000). The examples of standard setting and policy enforcement demonstrate how mining companies influence ongoing net activities without having to perform them directly, which might limit contributions from others (Roseira, Brito, & Henneberg, 2010).

7. Theoretical Implications

In outlining the strategic processes and capabilities related to net formation and management, we provide insight into how actors engage at different stages of net development. While certain characteristics of the net diverged from previous conceptualizations, importantly, managers largely shared a common perception of boundary, acknowledging unique structures and processes which delimited the net from the 'mainstream' network (Alajoustijärvi et al., 1999; Brito & Roseiro, 2005). This suggests some distinction from generic forms of inter-organizational interactions in networks and supports the idea that net participation requires specific capabilities (Partanen & Möller, 2012).

The case offers conceptual insight into actors' abilities to strategically form nets within networks through deliberate activities (Möller, Rajala, & Svahn, 2005). This is an important consideration given intentional creation has been used to distinguish nets from broader

networks and raises several theoretical questions around actor control (Valkokari, 2015). By acknowledging, and indeed embracing, the context-specific nature of management (Svahn & Westerlund, 2007), we see how mining company strategy shifted from more controlling and direct actions within their supply chains to more subtle forms of influence at the industry net level where close control was less possible or advantageous (Gadde, Huemer, & Håkansson, 2003). This somewhat aligns with the idea of clusters of relationships drifting together through change processes (Hertz, 1996) and supports the understanding that management in networks is a relative phenomenon (Möller, Rajala, & Svahn, 2005). Recognizing more emergent processes and less deterministic perspectives of net formation clarifies the nature of control and links the net concept to management approaches at broader network levels, previously considered inconsistent (Ford & Mouzas, 2013; Valkokari, 2015).

In exploring how actors strategically influence others through nets, the case draws attention to the important activities mining companies performed in mobilizing others and adjusting their own practices. Mining companies assumed hub roles in attracting actors, coordinating resources, facilitating interactions and directly supporting others to ensure their activities aligned with strategic objectives (Partanen & Möller, 2012). Critical at this formation stage were mining companies' abilities to align the diverse motivations of different actors with a common purpose, which engaged and sustained their involvement in the net, despite it being a dynamic and emerging area (Ritvala & Salmi, 2011; Mouzas & Naudé, 2007; Lind, 2015). These close, resource intensive activities were considered important to establish the legitimacy of the net's strategic purpose and adapt processes as they evolved (Human & Provan, 2000). Additionally, the contextual setting offers a unique example of nets in less cooperative environments, where multiple actors attempt to strategically influence and a form of 'co-orchestration' emerges (Dhanaraj & Parkhe, 2006; Partanen & Möller, 2012).

Finally, the case also presents a nuanced understanding of capabilities utilized by prominent actors at two stages. This distinguishes between the formative capabilities of sensing, mobilization and maneuvering used to successfully integrate Indigenous contracting into supply chains; and the management capabilities of visioning, orchestration and governance which influence the net so as to align outcomes with firms' specific agendas. By incorporating these capabilities into a framework, we are able to appreciate how they interrelate, and how they are dynamically developed by successful firms to strategically form and manage nets (Eisenhardt & Martin, 2000; Möller & Svahn, 2003; Foss, 2011). Although contextually specific to certain types of actors or net goals, empirically grounding dynamic capabilities in a case adds clarity to the different types of capabilities and their link to strategic applications (Foss, 2011). Our empirical case in itself adds value by highlighting the applicability of business network theories in non-traditional contexts.

8. Managerial Implications

In recognizing the context specific nature of nets, our research does not attempt to outline a definitive method for forming and managing nets, however it does capture practical activities from a managerial perspective. The case demonstrated the importance of internal adjustments made in establishing alliance managers and departments to reconfigure organizational resources and processes, while also closely coordinating third party relationships. These process adaptations represented the microfoundations underlying

important sensing, mobilization and maneuvering capabilities. The strategic application of nets was evident in their use by mining companies to separately pursue Indigenous contracting objectives related to CSR and minimize the impact on their overall operational efficiency. This demonstrates ways in which nets can be used to influence others, particularly towards specific objectives that may alter existing relationships or processes.

A complementary managerial implication relates to recognizing the power of strategic influence and using more broadly directed capabilities to enable net management without control. Companies focusing on influencing at the industry net level must be able to adapt their activities to indirectly cooperate with competitors. Given the intensive strain on resources required to initiate change in their supply chains, mining companies acknowledged the collective benefits of their competitors' activities; and we therefore suggest that it was possible and advantageous for them to adjust to less controlling forms of management at this level (Gadde, Huemer, & Håkansson, 2003). The importance of visioning, orchestration and governance capabilities employed at the industry level highlights the significance of contextual factors in understanding the relevant managerial processes and dynamic capabilities (Teece, 2007; Möller, Rajala, & Svahn, 2005).

9. Limitations and Future Research Direction

This research is not without its limitations. In seeking to expand upon the previously narrow applications of the net concept, the research design focuses on a case that may not be completely generalizable to more traditional management problems. Nevertheless, this context might fruitfully be compared to industry strategies and capabilities in response to other environmental and social challenges; and, arguably, to any situations where diverse actors confront complex issues, such as radical process change. In addition, while the case incorporates multiple stakeholder perspectives to plot a net 'history' from multiple supply chains to a single industry level net, it lacks an ongoing temporal element to explore the subsequent development of the net over time. A longitudinal perspective opens up opportunities to incorporate relationship ending and net termination processes into the framework of dynamic capabilities (Mitrega et al., 2016).

Future studies should look to build upon some of the theoretical questions raised in this research, particularly by exploring alternative conceptualizations of nets. Subsequent case research may identify similar managerial contexts featuring co-orchestrated nets pursuing large scale goals, while also adding more longitudinal elements to the design. Additionally, further exploration of the role of lead actors in influencing others through nets can contribute to a more nuanced understanding of shifts in control. Finally, along with most research in this area, we have placed emphasis on the role and dynamic capabilities of powerful actors, yet there remains a need to recognize the dynamic capabilities and practices of other smaller firms participating in nets.

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Appendix 1: List of Case Study Organizations and Respondents

Code	Organization	Respondent(s)/Position
A	Mining Company	M.B, Indigenous Affairs Manager
B	Mining Company	H.B, Contracts Manager
C	EPCM Company	M.G, Contracts Manager Y,G, Indigenous Engagement Manager
D	EPCM Company	N.T, Contracts Manager
E	Mining Company	N.H, Contracts Manager
F	Mining Company	M.C, Contracts Manager
G	Indigenous Engineering and Labor Hire Company	D.L, Manager
H	Indigenous Labor Hire Company	M.V, Manager
I	Indigenous Heritage Services and Labor Hire Company	J.K, Director S.P, Director
J	Indigenous Labor Hire Company	S.P, Director
K	Indigenous Recruitment and Labor Hire Company	P.J, Owner
L	Indigenous Recruitment and Community Consultancy Company	M.J, Owner
M	Indigenous Community Consultancy and Cultural Education Company	C.K, Owner S.C, Assistant Manager
N	Indigenous Construction and Labor Hire Company	P.D, Owner V.N, Owner
O	Indigenous I.T Services Company	H.C, Director
P	Indigenous Consultancy Company	A.W, Owner
Q	Government Indigenous Business Support Agency.	C.Y, Manager
R	Government Indigenous Business Support Agency.	H.N, Manager
S	Not-for-profit Indigenous Business Support Agency	E,J, Assistant Manager W.F, Field Manager
T	Indigenous Business Support Agency	P.C, Manager